

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office Action, and amended, as deemed necessary, to more particularly point out and distinctly claim that which applicants regard as the invention.

Specifically, by this Amendment, claims 5 and 7-9 have been amended. No claims have been canceled and no new claims have been added to the application. Accordingly, claims 1, 5, 7-10, 14, 16 and 18-24 are pending in the application, with claims 1, 10, 14, 16 and 18-24 having been previously withdrawn from consideration as being drawn to non-elected inventions. No new matter has been added to the application.

In the prior Office Action, the Examiner rejected claims 5, 7 and 9 under 35 U.S.C. §103(a) as being unpatentable over Sugai et al., U.S. Pat. 4,640,723. In view of the amendments made to claims 5 and 7-9 herein, reconsideration of the prior claim rejections is respectfully requested.

Claims 5 and 7-9 have been amended to clarify that the claimed invention is a method for manufacturing a copper alloy welding electrode tip of a welding machine.

Sugai et al. discloses a method for manufacturing a copper alloy lead frame for a semiconductor integrated circuit. It would not be obvious to one having ordinary skill in the art to manufacture a copper alloy welding electrode tip of a welding machine from the same copper alloy which Sugai et al. teaches can be used to manufacture a lead frame for a semiconductor integrated circuit. Sugai et al. does not disclose anything that would lead on of ordinary skill in the art to perceive that there would be a benefit from doing so.

The determination regarding whether an invention as claimed is obvious in view of the prior art must be made in accordance with the standards set forth in the Supreme Court's opinion in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ____ , 82 U.S.P.Q.2d 1385 (2007). In the *KSR* case, the Court made it clear that in order to reject a claim under 35 U.S.C. §103, there must be an explicit analysis explaining the apparent reason why a person of ordinary skill in the art would combine known elements described in the prior art in the way claimed. The person of ordinary skill in the art would have to see the benefit of making the combination. The person of ordinary skill in the art would have to recognize that it would improve similar devices or methods in the same way. The critical inquiry is whether the claimed improvement is more than the predictable use of prior-art elements according to their established functions. If it is, then the improvement is not obvious under 35 U.S.C. §103(a).

In the present case, the analysis required by *KSR* requires a finding that applicant's invention, as claimed, is not obvious in view of Sugai et al. Sugai et al. is directed to a completely different field of technology and is intended to address different problems. No one having ordinary skill in the art would have found the disclosure of Sugai et al. instructive in designing a method for manufacturing a copper alloy welding electrode tip of a welding machine. Accordingly, the rejection of claims 5, 7 and 9 should be withdrawn.

Also in the prior Office Action, the Examiner also rejected claim 8 under 35 U.S.C. §103(a) as being unpatentable over Sugai et al. as applied to claims 5, 7 and 9 further in view of Nishihara et al., U.S. Pat. 4,445,350. In view of the amendments

made to claims 5 and 7-9 herein, reconsideration of the prior claim rejection is respectfully requested.

Nishihara et al. discloses a method for hot lubricated metal extrusion in which a billet is extruded into a solid or tubular form by means of a die and/or a mandrel with an organic lubricant interposed within a container (see Abstract). The method involves feeding a combustion improver or a mixture of a combustion improver and water into an extruded product thereby burning off the carbide of the lubricant deposited on the surfaces of the extruded product (see Abstract). The method can be utilized to process a variety of metals including pure copper and copper alloys.

Nishihara et al. does not teach a method for manufacturing a copper alloy welding electrode tip of a welding machine. And thus, claim 8 is patentable over the combination of Sugai et al. and Nishihara et al. for the same reasons that claims 5, 7 and 9 are patentable over Sugai et al.

Applicant further notes that Nishihara et al. does not teach the extrusion speed element of claim 8. With respect to copper and copper alloys, Nishihara et al. teaches an extrusion speed of 40 mm/sec (see Table 1 at col. 8., line 25). This extrusion speed is 20 times greater than the maximum extrusion speed (2.0 mm/sec) permitted by claim 8. Nishihara et al. does not teach or suggest that the extrusion speed should be decreased so as to meet the limitations of claim 8, and thus claim 8 is also patentable over the combination of Sugai et al. and Nishihara et al. on this basis.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is

invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. KOY-15896.

Respectfully submitted,

RANKIN, HILL & CLARK LLP

By: /Randolph E. Digges, III/
Randolph E. Digges, III, Reg. No. 40590

38210 Glenn Avenue
Willoughby, Ohio 44094-7808
(216) 566-9700